

US009636465B2

(12) United States Patent Hung

(54) SAFETY SYRINGE

(71) Applicants:Bo-Ren Jheng, Taichung (TW); Yih

Hoong Enterprise Co., Ltd., Hsinchu

(TW)

(72) Inventor: Chih-Kuo Hung, Hsinchu (TW)

(73) Assignees: **Bo-Ren Jheng**, Taichung (TW); **YIH HOONG ENTERPRISE CO., LTD.,**Hsinchu (TW)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 226 days.

(21) Appl. No.: 14/552,185

(22) Filed: Nov. 24, 2014

(65) **Prior Publication Data**US 2015/0151056 A1 Jun. 4, 2015

(30) Foreign Application Priority Data

Nov. 29, 2013 (TW) 102143887 A

(51) Int. Cl.

A61M 5/32 (2006.01)

A61M 5/34 (2006.01)

A61M 5/178 (2006.01)

A61M 5/50 (2006.01)

A61M 5/315 (2006.01)

(52) U.S. Cl.

(10) Patent No.: US 9,636,465 B2

(45) **Date of Patent:** May 2, 2017

(58) Field of Classification Search

CPC A61M 2005/31516; A61M 2005/3231; A61M 5/178; A61M 5/3221; A61M 5/344; A61M 5/345; A61M 5/50 See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

CN 2782120 Y 5/2006 TW M286674 U 2/2006

(Continued)

Primary Examiner — Quynh-Nhu H Vu (74) Attorney, Agent, or Firm — Muncy, Geissler, Olds & Lowe, P.C.

(57) ABSTRACT

A safety syringe includes a barrel having a positioning groove, a needle holder mounted in the barrel and having a first internal flange engaged in the positioning groove of the barrel and a first positioning flange, an interlocking seat mounted in the needle holder and having an elastic flap and a first external flange, and a plunger mounted in the barrel and having a second external flange. By means of engagement between the elastic flap of the interlocking seat and the second external flange of the plunger, the interlocking seat can be pulled by the plunger to let the first external flange to be forced into engagement with the first internal flange of the needle holder for allowing the needle holder with an attached needlestick to be pulled backwardly into the inside of the barrel to assure the safety of the syringe after the injection.

6 Claims, 7 Drawing Sheets

